



## Effectiveness of Structured Communication Tools for Discussing Goals of Care in Cancer Care Settings: A Systematic Review

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### ABSTRACT

**Background and aim:** Structured communication tools have been increasingly adopted in cancer care to support discussions on goals of care (GOC), symptom management, and psychosocial needs. However, evidence regarding their effectiveness across outcomes remains fragmented. The study aims to synthesize evidence on the effectiveness of structured communication tools used in cancer care settings for discussing goals of care, with a focus on patient, caregiver, and system-level outcomes.

**Method:** A comprehensive search was conducted in databases including PubMed, Google Scholar, Clinical Key, and Cochrane Library from January 2000 to July 2025. Eligible studies included quasi-experimental trials, Randomized controlled trials (RCTs), cluster randomized trials, and cohort studies evaluating structured communication interventions. Two reviewers independently screened articles, extracted data, and assessed the Risk of bias using the ROB-I, ROB-I (Cluster), ROBINS-I V2, and ROBINS-E tools. Outcomes of interest were broadly encompassed, including quality of life(QoL), psychological status, patient satisfaction, decisional conflict, hospice utilization, and advance care planning. Due to heterogeneity in study designs and outcomes, a narrative synthesis was performed.

**Results:** From an initial pool of 310 articles, 25 studies met the inclusion criteria. SCTs varied widely and included FLEX Care, end-of-life (EOL) care planning, communication training, Loop intervention, Serious Illness Care Program, PCAD pathway, GOC conversation, and an adapted end-of-life care module, etc. Studies reported improved QoL (n=10), psychological status (n=3), patient/staff/caregiver satisfaction (n=3), decisional conflict (n=2), hospice utilization, and advance care planning (n=7). Mean scores for psychological distress participants receiving FLEX Care®-enhanced psychosocial intervention experienced a significant reduction in psychological distress compared to participants in the control setting (p<0.001). EOL discussions were associated with lower rates of ventilation (AOR=0.26, 95%CI=0.08-0.83), resuscitation (AOR=0.16, 95%CI=0.03-0.80), ICU admission (AOR=0.35, 95%CI=0.14-0.90), and earlier hospice enrolment (AOR=1.58, 95% CI=1.04-2.63). while longer hospice stays were associated with better patient QoL (p=0.01)

**Conclusion:** SCTs appear effective in improving the goals-of-care discussions in cancer settings, with benefits in care alignment and patient satisfaction. Implementation strategies and clinician training remain critical components for success.

**KEYWORDS:** Goals of care, structured communication tools, cancer, palliative care, serious illness communication, shared decision-making, and advance care planning.

### INTRODUCTION

Cancer care is characterised by complex clinical trajectories, high symptom burden, and significant uncertainty regarding prognosis and treatment outcomes [1–3]. As the disease progresses, patients and their families are often required to make challenging decisions related to treatment intensity, symptom control, and end-of-life care [4]. In this context, discussions on goals of care (GOC) are a critical component of high-quality oncology and palliative care, ensuring that medical decisions align with patients' values, preferences, and priorities [5,6].

Despite their importance, GOC discussions are frequently delayed, inadequately structured, or inconsistently documented in routine cancer care [7,8]. Barriers include time constraints, clinicians' discomfort with sensitive conversations, prognostic uncertainty, and lack of standardized approaches to guide communication [9,10]. Consequently, patients may experience unmet informational needs, poorly controlled symptoms, psychological distress, and care that does not reflect their expressed wishes [11].



Structured communication tools have emerged as a promising strategy to address these challenges. These tools include standardized consultation frameworks, structured symptom and needs assessment instruments, care-planning pathways, and communication guides designed to support healthcare professionals in conducting comprehensive and patient-centred conversations [12]. By providing prompts, standardized language, and documentation formats, structured communication tools aim to improve clarity, consistency, and completeness of goals-of-care discussions [13].

In oncology and palliative care settings, structured communication interventions are frequently embedded within multidisciplinary models of care and delivered by physicians, nurses, or other trained healthcare professionals [14]. Evidence suggests that such approaches can enhance symptom assessment, improve patient understanding, and support shared decision-making in cancer care [15]. However, findings across individual studies remain heterogeneous, necessitating systematic synthesis

## JUSTIFICATION

Effective communication regarding goals of care is fundamental to patient-centred cancer care and is strongly associated with improved quality of life, better symptom control, and care aligned with patient preferences [1,5,6]. International oncology and palliative care guidelines consistently emphasise early and structured goals-of-care discussions; however, evidence indicates that such conversations are often delayed or inadequately conducted in routine practice [7,8].

Structured communication tools have been developed to support clinicians in navigating complex and emotionally sensitive discussions. Although individual studies have reported beneficial effects on symptom management, psychological outcomes, and communication quality, the evidence base remains fragmented across diverse settings and intervention types [12–15]. This fragmentation limits the ability of clinicians, health system leaders, and policymakers to make evidence-informed decisions regarding implementation.

A systematic synthesis of available evidence is therefore justified to evaluate the effectiveness of structured communication tools in cancer care, identify methodological gaps, and inform future research and policy. Strengthening the evidence base in this area is essential to support wider adoption of structured communication practices and to improve the quality and consistency of goals-of-care discussions across oncology settings.

## OBJECTIVES

This systematic review aims to evaluate the effectiveness Of Structured Communication Tools For Discussing Goals Of Care In Cancer Care Settings.

## METHODS

### Study Design

This review was conducted as a systematic review in accordance with the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) guidelines. The review protocol was prospectively registered with the International Prospective Register of Systematic Reviews (PROSPERO) to enhance methodological transparency and reduce the risk of reporting bias (PROSPERO registration number: CRD420251064532). Any deviations from the registered protocol were documented and justified. The protocol is publicly available from the PROSPERO database (CRD420251064532) and can be accessed at: <https://www.crd.york.ac.uk/PROSPERO/view/CRD420251064532>.

### Eligibility Criteria

The eligibility criteria for this systematic review were defined using the Population, Intervention, Comparator, Study design, and Context (PICOS) framework to ensure clarity and reproducibility.

### Population

**Inclusion:** Adult patients aged 18 years and above diagnosed with any type or stage of cancer, receiving care in any healthcare setting, including hospitals, palliative care services, outpatient oncology clinics, long-term care facilities, or community-based settings.

**Exclusion:** Studies focusing exclusively on pediatric populations or on patients with non-cancer illnesses.



## Interventions

**Inclusion:** Structured communication tools explicitly designed to support discussions about goals of care, values, and preferences. These included, but were not limited to, the Serious Illness Conversation Guide (SICG), Goals of Care (GoC) conversation aids, advance care planning (ACP) tools or decision aids, and structured communication frameworks or checklists used directly with patients.

**Exclusion:** Communication training programs that did not involve the direct use of a structured communication tool with patients, and interventions focused solely on documentation processes or electronic health record prompts without an accompanying structured conversational component.

## Comparators

**Inclusion:** Usual care without the use of a structured communication tool; alternative communication approaches not involving structured tools; or other structured communication interventions used as comparators.

**Exclusion:** Comparisons between two unstructured or informal communication approaches; studies using hypothetical or simulated comparators (e.g., vignettes without real patient interaction); and studies limited to pre–post evaluations without a comparator group receiving standard care or an alternative intervention.

## Study Design

**Inclusion:** Both randomized and non-randomized quantitative study designs, including randomized controlled trials (RCTs), non-randomized controlled trials, controlled before-and-after studies, and cohort studies.

**Exclusion:** Qualitative studies.

## Context

Studies conducted in any healthcare setting were eligible, including hospitals, oncology clinics, palliative care units, long-term care facilities, and community-based care settings.

## Information Sources and Search Strategy

The initial database search identified a total of records relevant to structured communication tools in cancer care. After removal of duplicates, titles and abstracts were screened for relevance. Records not focused on cancer care settings or not involving structured communication interventions were excluded. Full-text articles were then assessed for eligibility. Studies were excluded at this stage if they did not report outcomes related to goals of care, communication, or symptom management, or if they were reviews or opinion pieces. Following full-text assessment, a final set of studies meeting all inclusion criteria were included in the narrative synthesis.

## Study Selection

All identified articles were imported into reference management software and duplicates removed. Two independent reviewers screened titles and abstracts for relevance. Full texts of potentially eligible articles were retrieved and assessed against the inclusion criteria. Discrepancies were resolved through discussion or consultation with a third reviewer.

## Data Extraction

A standardized data extraction form was used to collect information on study characteristics (author, year, country, setting, design), Participant characteristics (sample size, age, cancer type), Intervention details (type, duration, delivery method, components), Comparison group, Outcome measures, Key findings, and effect sizes

Data were extracted independently by two reviewers. Authors were contacted for missing or unclear data when necessary.

## Quality Assessment

Methodological quality of included studies was assessed independently by two reviewers using the Cochrane Risk of Bias 2 (RoB 2) tool for RCTs and the Joanna Briggs Institute (JBI) Critical Appraisal Tool for quasi-experimental or non-randomized studies. Discrepancies were resolved through discussion.

## Data Synthesis

A narrative synthesis was conducted due to heterogeneity of study designs, interventions, and outcome measures. Where feasible, effect sizes (e.g., mean differences, standardized mean differences) were extracted or calculated for key outcomes. Meta-analysis was not considered as there were no at least three studies reported comparable outcomes using similar measures.



**RESULTS**

**Study Selection**

The initial search yielded 310 unique articles after duplicates were removed. Title and abstract screening excluded 247 articles. Full-text screening of 63 articles led to the exclusion of 38 articles for reasons including Reasons for exclusion at the full-text stage included ineligible populations, absence of a structured communication tool, lack of a comparator group, or qualitative-only study designs. The study selection process is summarised in the PRISMA flow diagram. Twenty-five studies met the inclusion criteria for this review (Figure 1).

**Characteristics of Included Studies**

The 25 included studies were conducted across a range of healthcare settings, including hospitals, oncology clinics, palliative care units, and community-based services. Considerable heterogeneity was observed in the types of structured communication tools (SCTs) evaluated. These included FLEX Care®, end-of-life (EOL) care planning interventions, the Serious Illness Care Program, Goals of Care (GoC) conversation aids, the Loop intervention, the PCAD pathway, structured communication training combined with patient-facing tools, and adapted end-of-life care modules. Interventions varied in intensity, delivery format, and professional groups involved, but all shared a common aim of facilitating structured discussions about patients’ values, preferences, and goals of care.

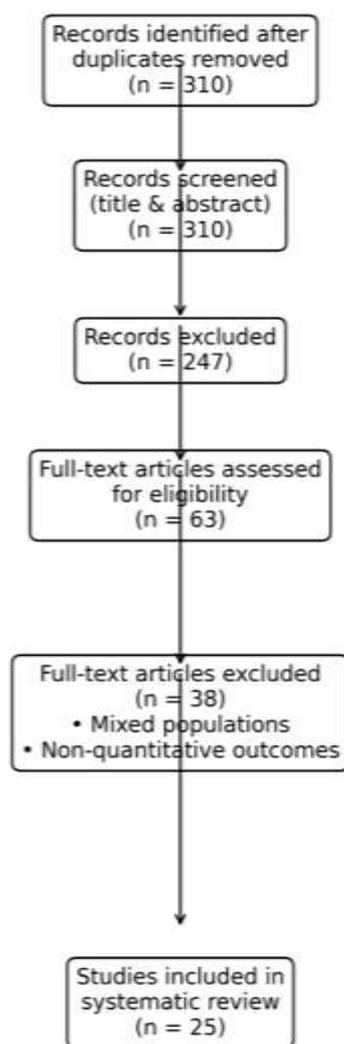


Figure 1: Study selection flow diagram



## Effects on Patient-Centred Outcomes

Improvements in quality of life (QoL) were the most frequently reported outcome, documented in ten studies. These studies consistently demonstrated that patients who participated in structured goals-of-care discussions reported better overall well-being, improved symptom management, and greater alignment between care received and personal preferences compared with those receiving usual care or unstructured communication.

Psychological outcomes were assessed in several studies, with three reporting significant improvements in psychological status. Notably, participants receiving a FLEX Care®-enhanced psychosocial intervention experienced a statistically significant reduction in psychological distress compared with participants in control settings ( $p < 0.001$ ). These findings suggest that structured communication tools, particularly when integrated with psychosocial support, can alleviate emotional distress in patients with cancer.

## Satisfaction and Decision-Making Outcomes

Three studies reported improvements in satisfaction among patients, caregivers, and healthcare staff following implementation of SCTs. Enhanced satisfaction was attributed to improved clarity of information, greater patient involvement in decision-making, and more consistent communication across care teams.

Reductions in decisional conflict were reported in two studies, indicating that structured communication tools supported shared decision-making and helped patients and families feel more confident and informed when making complex treatment and end-of-life decisions.

## Healthcare Utilization and End-of-Life Outcomes

Seven studies examined outcomes related to hospice utilization and advance care planning. The use of SCTs was associated with increased documentation of advance care plans and higher rates of hospice referral. Importantly, structured end-of-life discussions were associated with reduced use of aggressive life-sustaining treatments. Patients who engaged in EOL discussions had significantly lower odds of receiving mechanical ventilation (AOR=0.26, 95% CI=0.08–0.83), resuscitation (AOR=0.16, 95% CI=0.03–0.80), and intensive care unit admission (AOR=0.35, 95% CI=0.14–0.90).

Earlier hospice enrolment was also observed among patients exposed to SCTs (AOR=1.58, 95% CI=1.04–2.63). Furthermore, longer hospice stays were significantly associated with better patient quality of life ( $p=0.01$ ), highlighting the potential benefits of timely referral to palliative and hospice services.

## SUMMARY OF FINDINGS

Overall, the results indicate that structured communication tools are associated with improvements across multiple domains, including quality of life, psychological well-being, satisfaction, decisional conflict, and end-of-life care utilization. Despite heterogeneity in interventions and outcome measures, the direction of effect across studies was largely consistent, supporting the effectiveness of SCTs in cancer care settings.

## DISCUSSION

This systematic review synthesized evidence from 25 studies evaluating the effectiveness of structured communication tools (SCTs) for discussing goals of care in cancer care settings. Overall, the findings demonstrate that SCTs are associated with improvements in quality of life, psychological well-being, satisfaction with care, decision-making, and end-of-life care utilization. These results reinforce the growing recognition that structured, proactive communication is a critical component of high-quality oncology and palliative care [16–18].

Quality of life emerged as the most consistently improved outcome, reported in ten studies. This aligns with prior evidence suggesting that early and structured goals-of-care discussions facilitate care that is better aligned with patients' values and preferences, thereby reducing unwanted interventions and improving overall well-being [19,20]. The observed association between longer hospice stays and improved quality of life further supports the importance of timely referral to palliative and hospice services, enabled by effective communication [21].



Psychological outcomes were less frequently assessed but showed meaningful benefits. In particular, the significant reduction in psychological distress among patients receiving FLEX Care®-enhanced psychosocial interventions highlights the potential of SCTs to address emotional and existential distress alongside clinical decision-making [22]. This finding is consistent with earlier studies demonstrating that structured conversations can reduce anxiety and depressive symptoms by improving prognostic awareness and fostering a sense of control [23].

Structured communication tools were also associated with improved satisfaction among patients, caregivers, and healthcare providers. Enhanced satisfaction likely reflects improved clarity, shared understanding, and trust within the clinical relationship [24]. Reductions in decisional conflict observed in several studies further indicate that SCTs support shared decision-making by helping patients and families navigate complex and value-laden treatment choices [25].

Importantly, this review found strong associations between SCT use and reduced intensity of end-of-life care. Engagement in structured end-of-life discussions was associated with significantly lower odds of mechanical ventilation, resuscitation, and intensive care unit admission, as well as earlier hospice enrolment. These findings are consistent with prior research demonstrating that structured goals-of-care discussions reduce the use of non-beneficial aggressive treatments near the end of life while increasing the likelihood of care consistent with patient preferences [26–28].

Despite these positive findings, considerable heterogeneity was observed across interventions, outcome measures, and study designs. This heterogeneity limited direct comparison and precluded quantitative meta-analysis. Additionally, relatively few studies were conducted in low- and middle-income countries, highlighting an important gap in the evidence base, particularly given differences in healthcare infrastructure, cultural norms, and access to palliative care services [29].

Future research should prioritize standardization of outcome measures, rigorous evaluation of SCT implementation in diverse settings, and assessment of long-term patient- and system-level outcomes. Strengthening the evidence base will support wider adoption of structured communication tools and inform policy initiatives aimed at improving the quality and equity of cancer care [30].

## LIMITATIONS

This review was limited by heterogeneity across studies and reliance on narrative synthesis. Some studies lacked detailed reporting on intervention fidelity and bias assessment.

## CONCLUSION AND RECOMMENDATIONS

### Conclusion

This systematic review demonstrates that structured communication tools for discussing goals of care are effective in improving multiple patient-centred and system-level outcomes in cancer care settings. Across diverse healthcare contexts, the use of such tools was consistently associated with improved quality of life, reduced psychological distress, enhanced satisfaction among patients, caregivers, and healthcare providers, and lower decisional conflict. Importantly, structured goals-of-care discussions were linked to reduced use of aggressive end-of-life interventions, earlier hospice enrolment, and improved alignment of care with patient preferences. Despite heterogeneity in intervention types and outcome measures, the overall direction of evidence supports the integration of structured communication tools as a core component of high-quality oncology and palliative care.

### Recommendations

Based on the findings of this review, healthcare systems should prioritise the routine implementation of evidence-based structured communication tools to support timely and effective goals-of-care discussions for patients with cancer. Policymakers and clinical leaders should incorporate these tools into standard oncology and palliative care pathways, accompanied by appropriate training and institutional support. Future research should focus on standardizing outcome measures, evaluating long-term impacts, and expanding evidence from low- and middle-income country settings to enhance global applicability. Strengthening implementation research and health system integration will be critical to ensuring equitable access to high-quality, patient-centred end-of-life communication and care.



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